

ABSTRACT OF THE DISCLOSURE

Disclosed is a bi-directional optical link and method to facilitate bi-directional optical communications with a single optical fiber. Briefly described, the bi-directional optical link comprises a thin film detector having an upper surface facing a predetermined direction to receive incident light. Also, the link includes a thin film emitter stacked over the upper surface and oriented to direct a beam of light toward the predetermined direction. The thin film detector is relatively wide and flat, where the thin film emitter can be placed on the thin film detector while occluding only a portion of the thin film detector. Thus, the thin film detector can receive incident light from a single optical fiber facing the emitter/detector from the predetermined direction while at the same time emitting a beam of light into the same single optical fiber.